Drawing	: - TPC209
Issue	: - 6
Date	: - 09/12/13

NEPTUNE

INDUSTRIAL DEHUMIDIFIER

OWNER'S MANUAL

www.eipl.co.uk

NEPTUNE

PACKAGE CONTENTS

Item	Description	Quantity
10199GR-US	Dehumidifier	1
3014336	PVC Tube – 3/8” I/D	1.5M
3086116	Jubilee clip	1
TPC209	Manual	1

INTRODUCTION

Designed for a wide range of applications, the Neptune dehumidifier is a super high capacity industrial unit which provides fast and efficient drying.

The Neptune has a number of special features:

- Super high efficiency rotary compressor
- Temperature-sensitive microprocessor controlled defrost system
- Exterior epoxy powder-coated finish
- Internal condensate pump (optional)
- Rugged portable design
- Heavy duty carrying handle
- Extra long power cord

The fan draws the moist air through the inlet grille on the back of the unit, and then through the cold evaporator coil, which cools the air below its dew point. Moisture forms on the evaporator coil and is collected in the condensate tray, which is equipped with a permanent drain. The cooled air then passes through the hot condenser coil where it is reheated using the same energy removed during the cooling phase, plus the additional heat generated by the compressor. The air is, therefore, discharged from the dehumidifier at a slightly higher temperature with a lower absolute humidity than that which entered. Continuous circulation of air through the dehumidifier gradually reduces the relative humidity within the area.

The dehumidifier is a rugged, reliable drying unit designed to operate effectively over a broad range of temperature and humidity conditions.

The unit incorporates a welded and galvanized steel chassis and is finished in an epoxy coating for resilience to damage caused by rough handling.

SPECIFICATIONS

MODEL: Neptune

HEIGHT: 24” (610mm)

WIDTH: 14” (355mm)

DEPTH: 15” (381mm)

WEIGHT: 60 lbs (30 Kg)

AIRFLOW: 282 CFM (476 M3/Hr)

POWER SUPPLY: 110V/ 60Hz/ 1 ph

FINISH: Powder-coated Epoxy

OPERATING RANGE: 33°F – 95°F

REFRIGERANT: R-407c (16.2 oz)

"This product contains fluorinated greenhouse gases covered by the Kyoto Protocol. The refrigeration system is hermetically sealed.

The Global Warming Potential (GWP) of refrigerants used in products manufactured by Ebac Industrial Products Ltd is as follows

R134a – 1300
R407c – 1610

For type and weight of refrigerant contained in this unit, please refer to the product data label"

OPERATION

The following procedures should be followed to test the Neptune for correct operation:

1. After unpacking, examine all external features to confirm damage-free shipment. Report all defects and damage at once. Connect the power cable to a grounded 15 Amp electrical outlet.

2. Check dehumidification process as follows:

CAUTION:
DO NOT REMOVE COVERS WHEN UNIT IS IN OPERATION

A. Place unit on a level surface.

B. Start up unit by switching to “ON”.

C. Check that air is being delivered through the front outlet grille and the compressor is running.

D. Leave the machine running for 60 minutes.

E. Check to ensure there is sign of water extraction through the condensate drain.

If, after carrying out the above procedures, the unit does not appear to function properly, refer to the *Trouble Shooting* section, which follows, or contact the Factory Service Center.

CAUTION:
ONCE THE UNIT HAS BEEN SWITCHED OFF, WAIT AT LEAST FIVE MINUTES BEFORE RESTARTING.

ROUTINE MAINTENANCE

WARNING:
ENSURE THAT THE POWER CORD TO THE MACHINE HAS BEEN DISCONNECTED BEFORE CARRYING OUT ROUTINE MAINTNENANCE

To ensure continued full efficiency of the dehumidifier, maintenance procedures should be performed as follows:

1. Replace or clean the inlet air grille as required. Clean the surface of the evaporator and condenser coils by blowing the dirt out from behind the fins with compressed air. Hold the nozzle of the air hose away from the coil to avoid damaging the fins. Alternatively, vacuum clean the coils.

WARNING:
DO NOT STEAM CLEAN REFRIGERATION COILS

2. Check that the fan is firmly secured to the motor shaft and that the fan rotates freely. **The fan motor is sealed for life and therefore does not need oiling.**

3. To check the refrigerant charge, run the unit for 15 minutes and briefly remove the top cover. The evaporator coil should be evenly frost coated across its surface. At temperatures above 70°F, the coil may be covered with droplets of water rather than frost. Partial frosting accompanied by frosting of the thin capillary tubes, indicates loss of refrigerant gas or low charge.

4. Check all wiring connections.

IF ANY OF THE PRECEDING PROBLEMS OCCUR, CONTACT THE EBAC SERVICE CENTER PRIOR TO CONTINUED OPERATION OF THE UNIT TO PREVENT PERMANENT DAMAGE.

REPAIRS

1. Should an electrical component fail, consult the Factory Service Center to obtain the proper replacement part.

2. If refrigerant gas is lost from the machine, it will be necessary to use a refrigeration technician to correct the fault. Contact the Factory Service Center prior to initiating this action.

   Any competent refrigeration technician will be able to service the equipment. The following procedure must be used:

   a. The source of the leak must be determined and corrected.

   b. The machine should be thoroughly evacuated before recharging.

   c. The unit must be recharged with refrigerant measured accurately by weight.

   d. For evacuation and recharging of the machine, use the crimped and brazed charging stub attached to the side of the refrigerant compressor.

      The charging stub should be crimped and rebrazed after servicing. **NEVER** allow permanent service valves to be fitted to any part of the circuit. Service valves may leak causing further loss of refrigerant gas.

3. The refrigerant compressor fitted to the dehumidifier is a durable unit that should give many years of service. Compressor failure can result from the machine losing its refrigerant gas. The compressor can be replaced by a competent refrigeration technician.

   Failure of the compressor can be confirmed by the following procedure:

   a. Establish that power is present at the compressor terminals using a voltmeter.

   b. With the power disconnected, check the continuity of the internal winding by using meter across the compressor terminals. An open circuit indicates that the compressor should be replaced.

   c. Check that the compressor is not grounded by establishing that a circuit does not exist between the compressor terminals and the shell of the compressor.

TROUBLESHOOTING

SYMPTOM	CAUSE	REMEDY
Unit inoperative	1. No power to unit	1. Check the power from power supply panel
Little or no airflow	1. Loose fan on shaft 2. Fan motor burnt out 3. Dirty refrigeration coils 4. Loose electrical wiring	1. Tighten fan 2. Replace the fan motor 3. See *Routine Maintenance* Section 4. Check the wiring diagram to find fault and repair
Little or no water extraction	1. Insufficient air flow 2. Compressor fault 3. Loss of refrigerant gas	1. Check all of the above 2. Contact the Factory Service Center 3. Contact the Factory Service Center
Little or no defrost when required	1. Faulty timer 2. Faulty by-pass valve	1. Contact the Factory Service Center 2. Contact the Factory Service Center
Unit vibrates excessively	1. Loose compressor 2. Damaged fan	1. Tighten the nuts on the compressor mounts 2. Replace fan
Water flooding inside the machine	1. Drain pipe blocked/frozen 2. Drain pipe too high 3. Crimped or blocked tubing	1. Clear the obstruction 2. Ensure that no section of the drain hose is above the level of the water outlet 3. Straighten, clear, or replace tubing

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SPARE PARTS LIST

NUMBER	DESCRIPTION	PART NUMBER	QUANTITY
1	Compressor (RGA5456EXA)	3022170	1
2	Compressor Overheat Protector	N/A	1
3	Compressor Capacitor	3030908	1
4	Evaporator/Condenser Coil	2139330	1
5	Black Rubber Foot	3101436	4
6	Filter Dryer	3020901	1
7	Fan Motor	3035788	1
8	By-pass Valve	3020811	1
9	Electronic Timer	1609850	1
10	Axial Fan	3040129	1
11	Rocker Switch	3035914	1
12	Thermistor Assy	3035142	1
13	Solenoid Coil	3030421	1
14	PVC Clear Tube	3014336	1
15	Drain Tray	2131107	1
16	Capillary Tube 0.052” I/D	3014249	4.2 ft

Spare parts available online

www.EIPLDIRECT.com

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Ebac LIMITED WARRANTY

Our products carry a one-year unconditional warranty against any defects in workmanship or material. This warranty will cover all parts and labour required to repair your Ebac product. This warranty is invalid if the unit has been abused, damaged, whether intentional or accidental, or if any modifications have been made to the unit.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IS ISSUED IN LIEU OF ALL OTHER WARRANTIES (WHETHER WRITTEN, ORAL, OR IMPLIED) INCLUDING THE WARRANTY OF MERCHANTABILITY AND THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. EBAC SYSTEMS, INC. DISCLAIMS ANY LIABILITY FOR CONSEQUENTIAL DAMAGES, LOST PROFITS, OR INCIDENTAL DAMAGES FOR BREACH OF ANY WRITTEN OR IMPLIED WARRANTY WITH RESPECT TO THE FOREGOING DESCRIBED MERCHANDISE.

For Your Records: Model:_____
S/N:_____
Date Received:_____

SAVE THIS SECTION FOR YOUR RECORDS

CLIP AND RETURN THIS CARD

PLEASE NOTE

To ensure that your Ebac Dehumidifier is accorded the full coverage provided by this warranty, please complete and mail this card at your earliest convenience.

Thank You

WARRANTY REGISTRATION

MODEL _____ S/N _____ DATE RECEIVED _____

OWNER _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

COMMENTS _____

_____

Ebac Industrial Products, Inc.700 Thimble Shoals Blvd, Suite 109
Newport News, VA. 23606-2575Tel: (757) 873 6800 Fax: (757) 873 3632

UK Head Office

Ebac Industrial Products Ltd
St Helens Trading Estate
Bishop Auckland
County Durham
DL14 9AD

Tel: +44 (0) 1388 664400
Fax: +44 (0) 1388 662590

www.eipl.co.uk
sales@eipl.co.uk

American Sales Office

Ebac Industrial Products Inc
700 Thimble Shoals Blvd.
Suite 109, Newport News
Virginia, 23606-2575
USA

Tel: +01 757 873 6800
Fax: +01 757 873 3632

www.ebacusa.com
sales@ebacusa.com

German Sales Office

Ebac Industrial Products Ltd.
Gartenfelder Str. 29-37
Gebäude 35
D-13599, Berlin
Germany

Tel: +49 3043 557241
Fax: +49 3043 557240

www.eip-ltd.de
sales@eip-ltd.de